

# STUDENT LOAN FUND OF IDAHO (PWS 3380022) SOURCE WATER ASSESSMENT FINAL REPORT

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November 14, 2000



## State of Idaho Department of Environmental Quality

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## Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area, sensitivity factors associated with the wells, and aquifer characteristics.

This report, *Source Water Assessment for Student Loan Fund of Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Student Loan Fund of Idaho drinking water system consists of one well. In January and October 1993, the volatile organic contaminant 1,2-Dichloropropane was recorded in the water sampling effort. From July 1994 to August 1998, nitrate levels approached or exceeded the Maximum Contaminant Level (10 mg/l). Due to the high levels of nitrates, the Student Loan Fund of Idaho installed a reverse osmosis system to treat for nitrates. In June 1995, February, April, September, and December 1998, the Maximum Contaminant Level for arsenic (0.05 mg/l) was exceeded. The delineation capture zone also crosses a nitrate priority area and an organics priority area for the pesticide Atrazine, though these chemicals have not been detected in any water samples collected from the Student Loan Fund of Idaho well. County level nitrogen fertilizer use is high for the delineated capture zone. A Sanitary Survey conducted in August 1998 disapproved the well in regards to the seal and flood protection standards.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For the Student Loan Fund of Idaho, source water protection activities should first focus on correcting the deficiencies outlined in the Sanitary Survey. Other practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. Most of the designated areas are outside the direct jurisdiction of the Student Loan Fund of Idaho. Partnerships with state and local agencies and industry groups should be established and are critical to success. Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission and local Soil Conservation District, and the Natural Resources Conservation Service.

A community with a fully-developed source water protection program will incorporate many strategies. For assistance in developing protection strategies please contact the Boise Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

# **SOURCE WATER ASSESSMENT FOR STUDENT LOAN FUND OF IDAHO, FRUITLAND, IDAHO**

## **Section 1. Introduction - Basis for Assessment**

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings, used to develop this assessment, is also attached.

### **Level of Accuracy and Purpose of the Assessment**

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments must be completed by May of 2003. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The ultimate goal of this assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho Department of Environmental Quality (DEQ) recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

## **Section 2. Conducting the Assessment**

### **General Description of the Source Water Quality**

The Student Loan Fund of Idaho well is a non-community non-transient well serving approximately 50 people with one connection, located in Payette County, south of the City of Fruitland, ¼ mile west of the intersection of Highway 95 and NW 2<sup>nd</sup> Avenue (Figure 1). The public drinking water system for Student Loan Fund of Idaho is comprised of one well.

The primary water quality issue currently facing Student Loan Fund of Idaho is that of arsenic contamination, nitrate contamination, the volatile organic contaminant (VOC) 1,2-Dichloropropane, and possible synthetic organic chemical (SOC) contamination from the pesticide Atrazine and the problems associated with managing this contamination. In recent years, the well has recorded the presence of arsenic and nitrate above the Maximum Contaminant Level (MCL).

### **Defining the Zones of Contribution--Delineation**

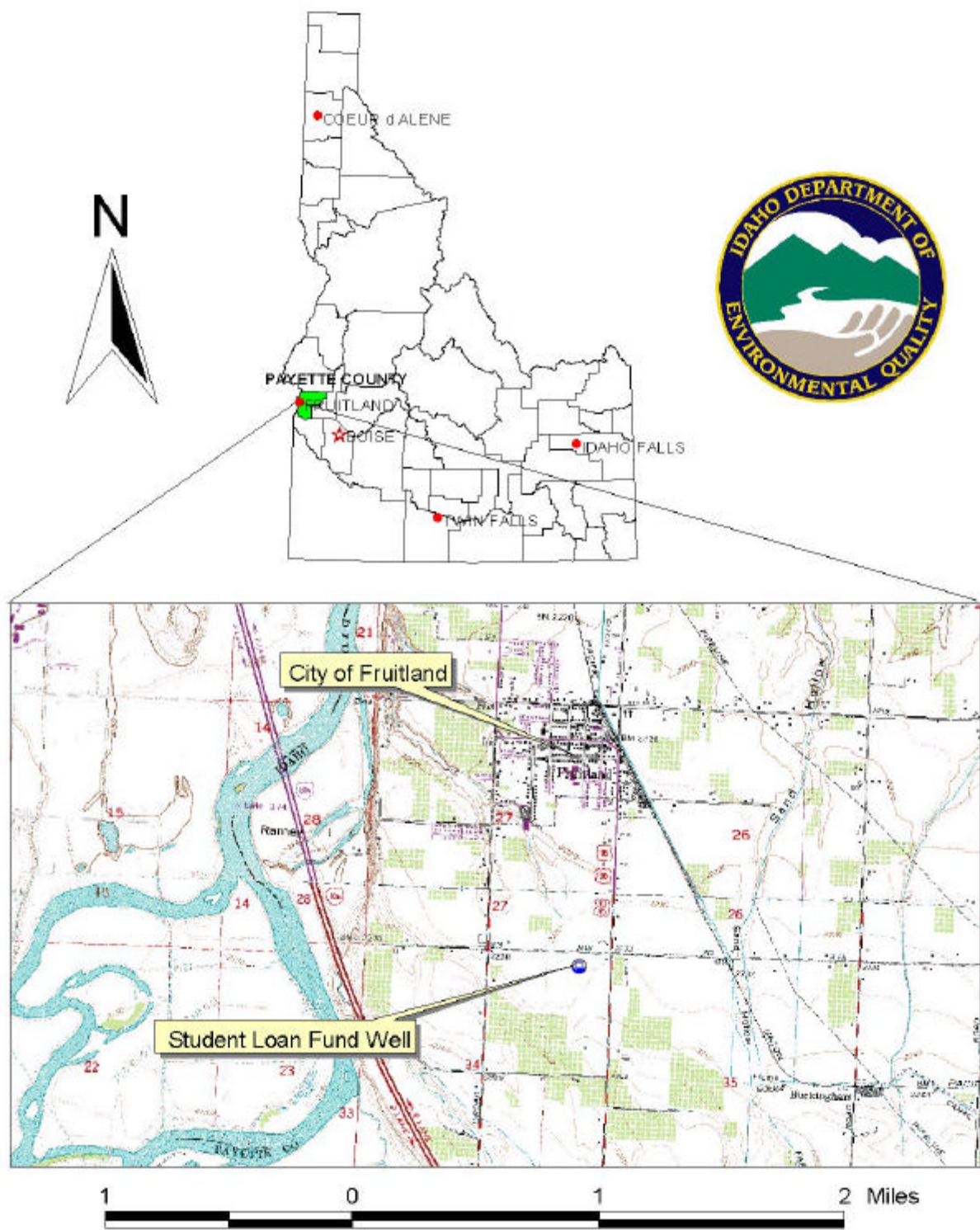
The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time of travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) time-of-travel (TOT) for water associated with the Payette Valley aquifer in the vicinity of the Student Loan Fund of Idaho. The computer model used site-specific data, assimilated by DEQ from a variety of sources including the City of Fruitland and other local well logs. A partial well log was available for the Student Loan Fund of Idaho. The delineated source water assessment area for Student Loan Fund of Idaho can best be described as a corridor ¼ mile wide and 1 ½ miles long extending south-southeast to the Highway 30 north of Interstate 84. The actual data used by DEQ in determining the source water assessment delineation area is available upon request.

### **Identifying Potential Sources of Contamination**

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

The dominant land use outside the Student Loan Fund of Idaho is irrigated cropland. Land use within the immediate area of the wellhead consists of small businesses.

Figure 1. Geographic Location of Student Loan Fund Well



It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination. These involve educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

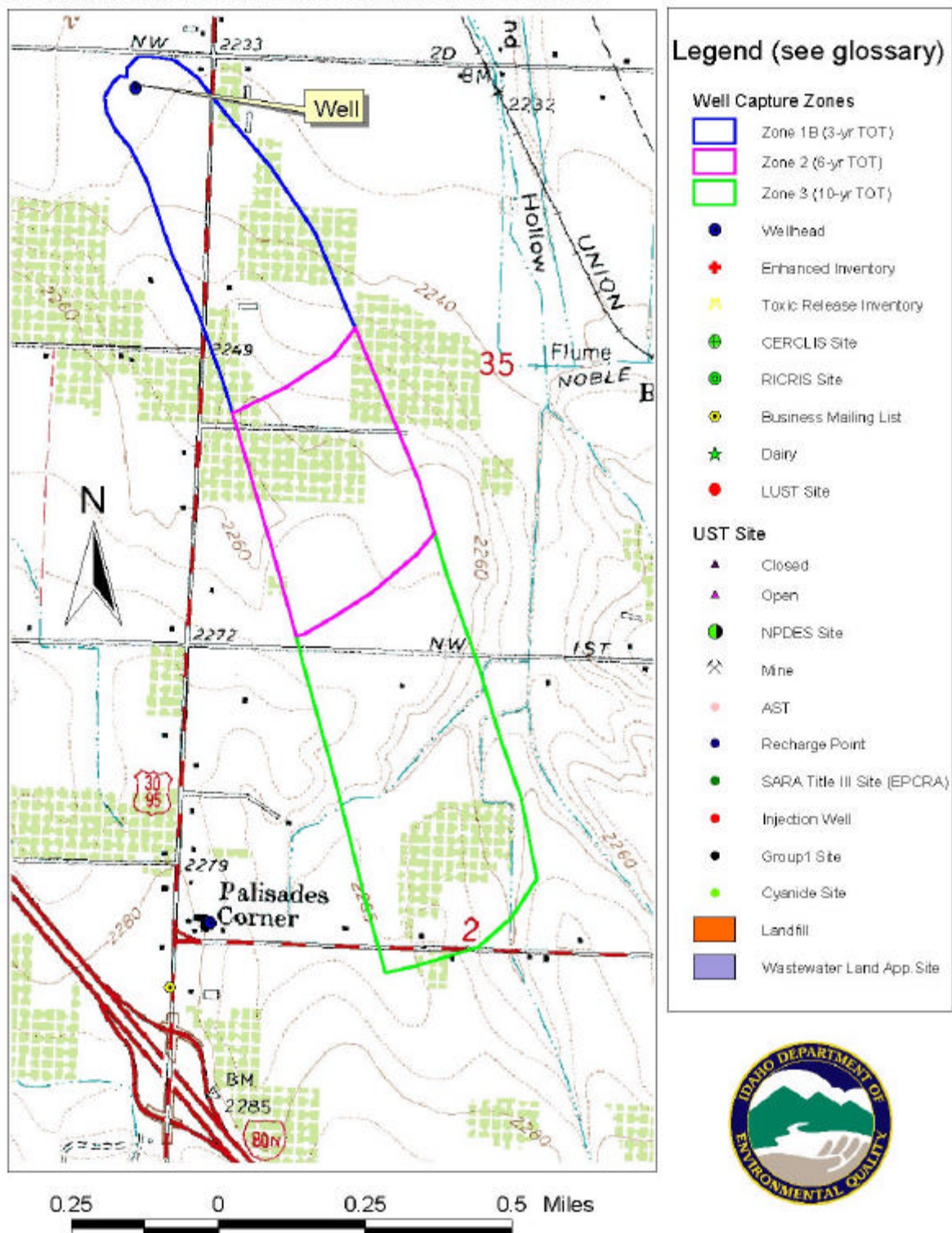
### **Contaminant Source Inventory Process**

A two-phased contaminant inventory of the study area was conducted during May of 2000. The first phase involved identifying and documenting potential contaminant sources within the Student Loan Fund of Idaho Source Water Assessment Area through the use of computer databases and Geographic Information System maps developed by DEQ. The second, or enhanced, phase of the contaminant inventory involved contacting the operator to validate the sources identified in phase one and to add any additional potential sources in the area. This task was undertaken with the assistance of Carol Lee Lawhorn.

No potential contaminant sites are located within the delineated source water area (Figure 2). Contaminants of concern are primarily related to arsenic contamination, nitrate contamination, the VOC 1,2-Dichloropropane, and to the organic priority areas for nitrate and for the pesticide Atrazine associated with the irrigated agriculture land use of the area.



**Figure 2. Student Loan Fund (PWS 3380022)  
Delineation and Potential Contaminant Locations**



### Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking.

#### Hydrologic Sensitivity

Hydrologic sensitivity was moderate for the well (see Table 1). This reflects the nature of the soils being in the poor to moderate drainage class, which inhibits downward movement of contaminants. The vadose zone (zone from land surface to the water table) is composed of brown clay, which also inhibits downward movement of contaminants. The well does not have the requisite 50 feet cumulative low permeability formations to lower the sensitivity score further.

#### Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. The Student Loan Fund of Idaho drinking water system consists of one well that extracts ground water for business uses. The well system construction score was high for the well, based on a disapproved rating on a 1998 sanitary survey. The well was out of compliance because the casing vent was not downturned or screened, there was no sample tap, and because flood protection standards are not being met. Lack of a complete well log prevented a determination of whether current Idaho Department of Water Resources standards are being met. Important protection aspects of the current standards include casing thickness and whether the casing and annular seal had been extended into a low permeability unit.

The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all Public Water Systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. Table 1 of the *Recommended Standards for Water Works* (1997) states that 10-inch casing requires a thickness of 0.365 inches. Since only a partial well log was available, a determination could not be made regarding the depth of the annular seal.

The well information available shows that the Student Loan Fund of Idaho well has a total depth of 80 feet below ground surface. Based on the partial well log, the blue clay that forms the barrier between the upper, unconfined sand and gravel, river-deposited aquifer and the deeper, semi-confined lacustrine (lakebed deposit) aquifer is found at 63 feet below ground surface.

#### Potential Contaminant Source and Land Use

The well rated on the high end of moderate for inorganic chemicals (IOCs) (i.e. arsenic, nitrate) and at the low end of moderate for synthetic organic chemicals (SOCs) (i.e. pesticides). The well rated low for volatile organic chemicals (VOCs) (i.e. petroleum products) and microbial contaminants. Agricultural



chemical sources and irrigated agricultural land use in the delineated source area contributed the largest numbers of points to the contaminant inventory rating.

In January and October 1993, the volatile organic contaminant 1,2-Dichloropropane was recorded in the water sampling effort. From July 1994 to August 1998, nitrate levels approached or exceeded the Maximum Contaminant Level (10 mg/l). However, the system is presently treating for nitrates through the use of a reverse osmosis system. In June 1995, February, April, September, and December 1998, the Maximum Contaminant Level for arsenic (0.05 mg/l) was exceeded. The delineation capture zone also crosses a nitrate priority area and an organics priority area for the pesticide Atrazine, though these chemicals have not been detected in any water samples collected from the Student Loan Fund of Idaho well. County level nitrogen fertilizer use is high for the delineated capture zone.

### Final Susceptibility Rating

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0 to 3-year time of travel zone (Zone 1B) and much agricultural land contribute greatly to the overall ranking. In terms of total susceptibility, the well rates moderate for SOC and microbial contaminants. The well rates high for IOC contaminants. Though the well would have rated moderate for VOCs, the detections of 1,2-Dichloropropane cause an automatic high rating for the well.

**Table 1. Summary of Student Loan Fund of Idaho Susceptibility Evaluation**

| Well | Susceptibility Scores <sup>1</sup> |                       |     |     |            |                     |                              |                 |     |            |
|------|------------------------------------|-----------------------|-----|-----|------------|---------------------|------------------------------|-----------------|-----|------------|
|      | Hydrologic Sensitivity             | Contaminant Inventory |     |     |            | System Construction | Final Susceptibility Ranking |                 |     |            |
|      |                                    | IOC                   | VOC | SOC | Microbials |                     | IOC                          | VOC             | SOC | Microbials |
| 1    | M                                  | M                     | L   | M   | L          | H                   | H                            | H* <sup>2</sup> | M   | M          |

<sup>1</sup>H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility,

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

<sup>2</sup>H\*: Indicates source automatically scored as high susceptibility due to presence of arsenic above the IOC Maximum Contaminant Level or the presence of 1,2-Dichloropropane in the tested drinking water

### Susceptibility Summary

Arsenic levels and nitrate levels currently threaten the Student Loan Fund of Idaho drinking water system. The VOC 1-2 Dichloropropane has been detected in the past. The well falls into a SOC priority area for the pesticide Atrazine.

The Student Loan Fund of Idaho well takes its water from the shallow, unconfined to semi-confined alluvial (river deposit) aquifer above the deeper semi-confined lacustrine (lakebed deposit) aquifer. The shallow aquifer has been demonstrated to be a distinct water-bearing unit in terms of water quality, water

yield, and the sources of recharge (DEQ, 2000). The shallow aquifer contains much higher levels of nitrate, lower levels of iron, and higher levels of arsenic than the deeper aquifer. Water yields from the shallow aquifer are significantly higher than from the deeper aquifer. Ground water in the shallow aquifer is recharged primarily from surface water irrigation, direct precipitation, and canal leakage while the sources of recharge to the deeper aquifer are indeterminate but are very likely much older.

#### **Section 4. Options for Source Water Protection**

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. A community with a fully-developed source water protection program will incorporate many strategies. For the Student Loan Fund of Idaho, source water protection activities should first focus on correcting the deficiencies outlined in the Sanitary Survey. Other practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. Most of the designated areas are outside the direct jurisdiction of the Student Loan Fund of Idaho. Partnerships with state and local agricultural agencies and industry groups should be established and are critical to success. Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the Payette Soil and Water Conservation District, and the Natural Resources Conservation Service.

Since the aquifers appear to have alternating layers of clays and sands, a deeper well could be installed to offer better protection from inorganic contaminants for the Student Loan Fund of Idaho. Any new PWS well should meet the *Recommended Standards for Water Works* (1997) as outlined in IDAPA 37.03.09 and IDAPA 58.01.08.550. Water should be taken from beneath the blue clay layer since the upper aquifer has a higher potential for becoming contaminated.

## **Assistance**

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Boise Regional DEQ Office (208) 373-0550

State DEQ Office (208) 373-0502

Website: <http://www2.state.id.us/deq>

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at (208) 743-6142 for assistance with wellhead protection strategies.

## POTENTIAL CONTAMINANT INVENTORY

### LIST OF ACRONYMS AND DEFINITIONS

**AST (Aboveground Storage Tanks)** – Sites with aboveground storage tanks.

**Business Mailing List** – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

**CERCLIS** – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as **Superfund**, is designed to clean up hazardous waste sites that are on the national priority list (NPL).

**Cyanide Site** – DEQ permitted and known historical sites/facilities using cyanide.

**Dairy** – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

**Deep Injection Well** – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

**Enhanced Inventory** – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

**Floodplain** – This is a coverage of the 100-year floodplains.

**Group 1 Sites** – These are sites that show elevated levels of contaminants and are not within the priority one areas.

**Inorganic Priority Area** – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

**Landfill** – Areas of open and closed municipal and non-municipal landfills.

**LUST (Leaking Underground Storage Tank)** – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

**Mines and Quarries** – Mines and quarries permitted through the Idaho Department of Lands.)

**Nitrate Priority Area** – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

**NPDES (National Pollutant Discharge Elimination System)** – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

**Organic Priority Areas** – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

**Recharge Point** – This includes active, proposed, and possible recharge sites on the Snake River Plain.

**RICRIS** – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

**SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities)** – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

**Toxic Release Inventory (TRI)** – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

**UST (Underground Storage Tank)** – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

**Wastewater Land Applications Sites** – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

**Wellheads** – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

**NOTE:** Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

## References Cited

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."

Idaho Department of Agriculture, 1998. Unpublished Data.

Idaho Division of Environmental Quality, 1994. Ground Water and Soils Reconnaissance of the Lower Payette Area, Payette County, Idaho. Ground Water Quality Technical Report No. 5. Idaho Division of Environmental Quality. December 1994.

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Idaho Department of Environmental Quality, 1997. Design Standards for Public Drinking Water Systems. IDAPA 58.01.08.550.01.

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Idaho Department of Water Resources, 1993. Administrative Rules of the Idaho Water Resource Board: Well Construction Standards Rules. IDAPA 37.03.09.

Natural Resource Conservation Service, 1991. Idaho Snake-Payette Rivers Hydrologic Unit Plan of Work. March 1991.

United States Geological Survey, 1986. Quality of Ground Water in the Payette River Basin, Idaho. United States Geological Survey. Water Resources Investigation Report 86-4013.

University of Idaho. 1986. Ground Water Resources in a Portion of Payette County, Idaho. Idaho Water Resources Research Institute. University of Idaho. Moscow, Idaho. April 1986.

## Attachment A

### Student Loan Fund of Idaho Susceptibility Analysis Worksheet



The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
- 2) 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5    Low Susceptibility

6 - 12   Moderate Susceptibility

≥ 13    High Susceptibility

## Ground Water Susceptibility Report

Public Water System Name :

STUDENT LOAN FUND OF IDAHO OF IDAHO

Well# : WELL 1

Public Water System Number 3380022

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## 1. System Construction

SCORE

|   |            |      |
|---|------------|------|
| Drill Date  | 10/05/1987 |      |
| Driller Log Available                                   | YES        |      |
| Sanitary Survey (if yes, indicate date of last survey)  | YES        | 1998 |
| Well meets IDWR construction standards                  | NO         | 1    |
| Wellhead and surface seal maintained                    | NO         | 1    |
| Casing and annular seal extend to low permeability unit | NO         | 2    |
| Highest production 100 feet below static water level    | NO         | 1    |
| Well located outside the 100 year flood plain           | NO         | 1    |

Total System Construction Score 6

## 2. Hydrologic Sensitivity

|   |     |   |
|---|-----|---|
| Soils are poorly to moderately drained                    | YES | 0 |
| Vadose zone composed of gravel, fractured rock or unknown | NO  | 0 |
| Depth to first water > 300 feet                           | NO  | 1 |
| Aquitard present with > 50 feet cumulative thickness      | NO  | 2 |

Total Hydrologic Score 3

## 3. Potential Contaminant / Land Use - ZONE 1A

| IOC Score | VOC Score | SOC Score | Microbial Score |
|-----------|-----------|-----------|-----------------|
|-----------|-----------|-----------|-----------------|

|   |                    |     |     |    |    |
|---|--------------------|-----|-----|----|----|
| Land Use Zone 1A  | IRRIGATED CROPLAND | 2   | 2   | 2  | 2  |
| Farm chemical use high                                      | YES                | 2   | 0   | 0  |    |
| IOC, VOC, SOC, or Microbial sources in Zone 1A              | YES                | YES | YES | NO | NO |
| Total Potential Contaminant Source/Land Use Score - Zone 1A |                    | 4   | 2   | 2  | 2  |

## Potential Contaminant / Land Use - ZONE 1B

|   |     |   |   |   |   |
|---|-----|---|---|---|---|
| Contaminant sources present (Number of Sources)               | NO  | 0 | 0 | 0 | 0 |
| (Score = # Sources X 2 ) 8 Points Maximum                     |     | 0 | 0 | 0 | 0 |
| Sources of Class II or III leacheable contaminants or         | YES | 4 | 0 | 0 |   |
| 4 Points Maximum  |     | 4 | 0 | 0 |   |
| Zone 1B contains or intercepts a Group 1 Area                 | YES | 2 | 0 | 2 | 0 |
| Land use Zone 1B Greater Than 50% Irrigated Agricultural Land |     | 4 | 4 | 4 | 4 |

Total Potential Contaminant Source / Land Use Score - Zone 1B 10 4 6 4

## Potential Contaminant / Land Use - ZONE II

|   |     |   |   |   |
|---|-----|---|---|---|
| Contaminant Sources Present                                   | NO  | 0 | 0 | 0 |
| Sources of Class II or III leacheable contaminants or         | YES | 1 | 0 | 0 |
| Land Use Zone II Greater Than 50% Irrigated Agricultural Land |     | 2 | 2 | 2 |

Potential Contaminant Source / Land Use Score - Zone II 3 2 2 0

|  |     |      |          |          |
|--|-----|------|----------|----------|
| Potential Contaminant / Land Use - ZONE III                    |     |      |          |          |
| -----  |     |      |          |          |
| Contaminant Source Present                                     | NO  | 0    | 0        | 0        |
| Sources of Class II or III leacheable contaminants or          | YES | 1    | 0        | 0        |
| Is there irrigated agricultural lands that occupy > 50% of     | YES | 1    | 1        | 1        |
| -----  |     |      |          |          |
| Total Potential Contaminant Source / Land Use Score - Zone III |     | 2    | 1        | 1        |
| -----  |     |      |          |          |
| Cumulative Potential Contaminant / Land Use Score              |     | 19   | 9        | 11       |
| -----  |     |      |          |          |
| 4. Final Susceptibility Source Score                           |     | 13   | 11       | 11       |
| -----  |     |      |          |          |
| 5. Final Well Ranking  |     | High | Moderate | Moderate |
| -----  |     |      |          |          |
| -----  |     |      |          |          |